

2.2 Classwork/Homework

Name: _____

Exercise Set 2.1

Practice Exercises

In Exercises 1–8, add or subtract as indicated and write the result in standard form.

1. $(7 + 2i) + (1 - 4i)$

3. $(3 + 2i) - (5 - 7i)$

5. $6 - (-5 + 4i) - (-13 - i)$

6. $7 - (-9 + 2i) - (-17 - i)$

7. $8i - (14 - 9i)$

In Exercises 9–20, find each product and write the result in standard form.

9. $-3i(7i - 5)$

11. $(-5 + 4i)(3 + i)$

13. $(7 - 5i)(-2 - 3i)$

15. $(3 + 5i)(3 - 5i)$

17. $(-5 + i)(-5 - i)$

19. $(2 + 3i)^2$

In Exercises 21–28, divide and express the result in standard form.

21. $\frac{2}{3 - i}$

23. $\frac{2i}{1 + i}$

25. $\frac{8i}{4 - 3i}$

27. $\frac{2 + 3i}{2 + i}$

In Exercises 29–44, perform the indicated operations and write the result in standard form.

29. $\sqrt{-64} - \sqrt{-25}$

31. $5\sqrt{-16} + 3\sqrt{-81}$

33. $(-2 + \sqrt{-4})^2$

35. $(-3 - \sqrt{-7})^2$

37. $\frac{-8 + \sqrt{-32}}{24}$

39. $\frac{-6 - \sqrt{-12}}{48}$

41. $\sqrt{-8}(\sqrt{-3} - \sqrt{5})$

43. $(3\sqrt{-5})(-4\sqrt{-12})$

Complete all circled
on separate sheet
for classwork.

Homework select
five additional
questions to practice.

51. $(2 - 3i)(1 - i) - (3 - i)(3 + i)$

52. $(8 + 9i)(2 - i) - (1 - i)(1 + i)$

53. $(2 + i)^2 - (3 - i)^2$

54. $(4 - i)^2 - (1 + 2i)^2$

55. $5\sqrt{-16} + 3\sqrt{-81}$

56. $5\sqrt{-8} + 3\sqrt{-18}$

57. Evaluate $x^2 - 2x + 2$ for $x = 1 + i$.

58. Evaluate $x^2 - 2x + 5$ for $x = 1 - 2i$.

59. Evaluate $\frac{x^2 + 19}{2 - x}$ for $x = 3i$.

60. Evaluate $\frac{x^2 + 11}{3 - x}$ for $x = 4i$.